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ABSTRACT

The present study examines a new battery of nonverbal cognitive measures used extensively with numerous preschool children. Seven nonverbal, individually administered measures of fluid reasoning and visualization were administered to these children. Raw scores were converted to age-corrected scaled scores and subjected to multivariate analysis of variance between 320 Anglo and 63 Hispanic children, and between 27 speech-impaired Anglo and 410 nonimpaired Anglo children. No significant differences were found on the nonverbal subtests of the new battery between Anglo and Hispanic preschoolers, showing some promise for ethnic fairness in assessment with this battery. However, significant differences were found for typical versus speech-impaired preschoolers. A case study is presented in an appendix of a 46-month old speech-impaired Hispanic male to illustrate the usefulness of nonverbal cognitive tests, including the new battery, in the assessment of this population. The educational and clinical significance of nonverbal preschool assessment is discussed. (Contains 10 references.) (Author/SLD)

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NONVERBAL ABILITIES OF HISPANIC AND SPEECH-IMPAIRED PRESCHOOLERS

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Paper presented at the meetings of the American Psychological Association Toronto, Canada, August 12, 1996.

ABSTRACT

The present study examines a new battery of nonverbal cognitive measures used extensively on numerous preschool children by the authors. Seven nonverbal, individually-administered measures of fluid reasoning and visualization were administered to these children. Raw scores were converted to age-corrected scaled scores and subjected to multivariate analysis of variance between Anglo and Hispanic children, and between Speech-impaired Anglo and Non-impaired Anglo children. No significant differences were found on the nonverbal subtests of the new battery between Anglo and Hispanic preschoolers, showing promise for ethnic fairness in assessment with this battery. However, significant differences were found for typical vs. speech- impaired preschoolers. A case study will be presented of a 46-month-old Speech-impaired Hispanic male to illustrate the usefulness of nonverbal cognitive tests, including the new battery, in the assessment of this population. The educational and clinical significance of nonverbal preschool assessment will be discussed.

INTRODUCTION

Intellectual assessment of preschool children has been described in the research literature as limited in predictive validity, given the rapid growth and neurological prematurity of these children. Further complicating the assessment of global cognitive ability in preschoolers is the increasing diversity of the population in terms of cultural, second language, and at-risk nature of family situations. Traditional measures of IQ, with heavy verbal loading, may provide inaccurate assessments for culturally-different and communication-delayed children. The present study examines a new battery of nonverbal cognitive measures, used extensively on numerous preschool children by the authors, in the assessment of cognitive abilities relevant to preschool preparedness.

Nonverbal, individually-administered measures of fluid reasoning, visualization, and memory were administered to two samples of children, ages 36 to 70 months. Subtests had colorful plastic manipulative "response pieces" and colored illustrations to hold the attention of children. Additionally, directions were given with gestures. The major research questions concerned the fairness of this nonverbal, nonlanguage battery for the assessment of Hispanic and speech-impaired children.

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METHOD

Subjects

Subjects were obtained from the standardization of the Leiter International Performance Scale-Revised (Roid & Miller, 1997). Subjects were selected by a stratified random sampling plan based on the 1993 U.S. Census (update of 1990 data), with stratification variables of age, gender, ethnicity (African American, Asian American, Hispanic, Anglo-nonhispanic, Native American and other), and geographical region. A total of 320 Anglo-nonhispanic and 63 Hispanic children, ages 3 to 5, composed the ethnic-contrast sample. For the contrast between speech impaired and typical children, there were 410 typicals and 27 with speech impairments. Examples of the demographics, which were similar in the two samples, included nearly equal gender composition, wide geographical representation (14% Northeast, 28% Midwest, 31% South, 27% West, and 8% rural [communities under 2500]). Ethnicity was restricted to Anglo (84%) vs. Hispanic (16%) in the first sample and Anglo (68%), African-American (19%) and Hispanic (13%) in the speech-impaired contrast sample to provide direct comparisons equated for ethnicity. A brief estimate of IQ derived from the Leiter-R showed means of 99.9 and 90.5 in the typical and speech-impaired samples, respectively.

Speech impairment was defined by a documented delay of more than 1.5 standard deviations (using age norms) on a nationally-standardized, individually administered scale of language or communication. Typical DSM-IV reference categories (APA, 1994) included 315.39, phonological disorder; 315.31, expressive language or mixed expressive-receptive language disorder; 309.0, stuttering; and 309.9, communication disorder not otherwise specified.

Instruments

Subjects were administered the Visualization and Reasoning (VR) battery of the Leiter-R (Roid & Miller, 1997) by experienced examiners (mostly school psychologists) who attended a 4-day training. Table 1 presents a brief description of each of the 7 subtests in the Leiter-R "VR" battery employed in the preschool range.

TABLE 1

Subtests of the Leiter-R in the preschool range

Reasoning (Gf) Subtests

1. Repeated Patterns (RP): Patterns of pictorial or figural objects which are repeated. Child supplies "missing" portion of pattern by moving response cards into alignment with easel.

2. Sequential Order (SO): Logical progressions of pictorial or figural objects; selection of related stimuli that progress in a related order.

3. Classification (C): Categorization of objects or geometric designs.

Visualization (Gv) Subtests

4. Matching(M): Discrimination and matching of visual stimuli; selection of response cards that match easel stimuli.

5. Figure Ground (FG): Identification of embedded figures or designs within a complex stimulus.

6. Picture Context (PC): Ability to recognize a pictured object that has been removed from a larger display (missing location indicated by markings), using visual context clues.

7. Form Completion (FC): Ability to recognize a "whole object" from a randomly-displayed array of its parts.

The Leiter-R subtests are individually-administered subtests with stimuli presented in easel format, requiring responses of one of three types: (a) pointing to the correct portion of the stimulus, (b) aligning manipulable pieces (rubberized, colored shapes of circles, squares and triangles) in correct patterns, or, the most frequent, (c) aligning one or more pictorial "playing cards" in the proper "slot" at the bottom of the easel frame. The latter response mode is similar to the original Leiter (1979) which employed wooden blocks aligned in a wooden frame. All test-administration directions are presented with gestures and nonverbal signals, and all subtests have initial "teaching" items to assure that the child understands the nature of each type of task. Three fluid-ability tests included "Repeated Patterns," in which series of colored objects were used (e.g., two red pieces followed two blue pieces in a row, with the child asked to correctly place the next pieces in the series). Additionally, four visual-ability measures included Figure Ground (identifying embedded pictorial objects) and Form Completion (visual reassembly of `puzzle' pieces).

The Leiter-R was constructed on a basis of the hierarchical "g" model of intellectual functioning, as proposed by Gustaffson (1984) and Carroll (1993). Of course, only the nonverbal portions of such models are implemented in the Leiter-R with visualization (Gv) and fluid reasoning (Gf) emphasized (Horn & Cattell, 1966).

Table 2 shows the internal consistency reliability estimates for each of the seven subtests, calculated on a preliminary sample of "typical" children, collected according to a stratified national sampling plan (gender, ethnicity, age, region and parental education as strata). Construct-related evidence of validity for the Leiter-R has been shown by Bos (1995) who demonstrated the presence of major factors, and Roid, Madsen & Miller (1996), who reported a correlation of .82 between Leiter-R on the preliminary sample and WISC-III full-scale IQ.

TABLE 2

Preliminary internal consistency reliability estimates for the seven Leiter-R Visualization and Reasoning subtests in the preschool range.

	Name of Subtest	M	RP	SO	PC	CL	FG	FC
Age of Subject	Number of Subjects							
2	94	.95	.92	.92	.91	.91	.86	.92
3	141	.95	.83	.76	.90	.88	.68	.90
4	147	.91	.88	.71	.91	.85	.70	.82
5	141	.90	.92	.89	.91	.84	.82	.90
6	112	.83	.92	.95	.89	.74	.76	.87
7	80	.74	.83	.95	.83	-	.68	.86
8	86	.76	.80	.93	.70	-	.77	.84
9	80	.60	.81	.91	.72	-	.79	.84
10	80	.68	.85	.94	.65	-	.78	.83
	Number of Items	38	29	42	25	23	31	35

Note: Calculated from Cronbach's alpha. Abbreviations follow the first letters of the subtest names.

Statistical Analysis

Raw scores (number of responses correct) were converted to age-corrected z-scores by the standard formula (z is equal to the raw score minus the mean divided by the standard deviation). Means and standard deviations for each year of age between 11 and 21 were used to calculate the z-scores. Z-scores were then converted to scaled scores with a mean of 10 and a standard deviation of 3. Multivariate analysis of variance were calculated for the two comparison studies using SPSS.

RESULTS

Hispanic vs. Anglo Comparison

A two-way multivariate analysis of variance was conducted, using mother's educational level (less than high school diploma, high school/GED, and 13+ years of education -- three levels within the MOM-ED factor), and Hispanic vs. Anglo ethnicity (ETHNIC) as independent variables. Dependent variables were the 7 "VR" subtests listed in Table 1. Univariate F-tests of differences between ethnic groups on the ETHNIC main effect showed none of the 7 subtests with significant differences, and the multivariate test (Wilk's lambda and F) was nonsignificant ($p = .750$).

As expected, the MOM-ED main effect was highly significant, with all 7 subtests having significant univariate differences and a multivariate F of 2.95, for 14 and 766 degrees of freedom ($p < .001$). The interaction of ETHNIC and MOM-ED revealed no significant univariate or multivariate differences.

Speech-Impaired vs. Typical-Child Comparison

A two-way multivariate analysis of variance was also conducted using MOM-ED as a factor (this time with only two levels, HS or less and 13+ years, due to the lower N size of the speech-impaired subgroups--10 and 17 children respectively). The SPEECH-IMP factor was a dichotomous one, as defined in the "Subjects" section above. For the MOM-ED main effect, only 1 subtest, Matching, achieved univariate significance, with a non-significant multivariate test of overall differences also present ($p=.159$). For the SPEECH-IMP main effect, 3 of the 7 subtests (Repeated Patterns, Sequential Order, and Form Completion) showed significant univariate differences between the typical and speech-impaired samples. The 4 subtests that did not show significant univariate differences (Picture Context, Classification, Matching and Figure Ground) are quite "visual" in quality. The overall multivariate test of differences was significant at the .01 level ($F=2.66$, $df=7$ and 427) with a very small effect size of .042. The interaction effect (MOM-ED by SPEECH-IMP) showed a non-significant multivariate test of differences ($p=.631$).

DISCUSSION AND CONCLUSIONS

No significant differences were found on the 7 nonverbal subtests of the Leiter-R "VR" battery between Anglo and Hispanic. Significant differences were found for typical vs. speech impaired preschoolers, notably on two of the "fluid reasoning" subtests. In the terminology of Cohen (1988), effect sizes below .20 SD units are considered "small," and this was true of the speech-impaired comparison study (effect sizes of .042).

The Leiter-R shows promise for ethnic fairness in assessment. All of the four key subtests that form a "brief IQ screening index" (Repeated Patterns, Sequential Order, Form Completion, and Figure Ground) had differences of less than one-fourth SD in effect size (smallest was Repeated Patterns, .013, largest was Form Completion, .237). These differences are much smaller in magnitude than those found on traditional, verbal IQ batteries.

The Leiter-R shows promise for fairness of assessment with speech-impaired preschoolers with average or better intellectual levels, especially in its "visual" subtests of Picture Context, Matching, and Figure Ground, but also in the reasoning subtests, such as Classification. Perhaps typical of children with serious speech impairments, the sample of the present study showed a significantly lower overall cognitive level (brief IQ screener scores averaged 90 versus 99 in the typical sample, with SD of 15). Although examiners were instructed to eliminate speech impaired adolescents with significant cognitive delays (Grossman, 1983), this directive was apparently not fully implemented in the present study; hence, differences in general reasoning ability existed between the typical and speech-impaired groups from the beginning.

A case study of a speech-impaired, Hispanic 3-year-old child is presented as an appendix to this empirical report.

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APPENDIX

Case Study

The following case study has been developed to demonstrate the usefulness of nonverbal cognitive tests in the assessment of culturally and linguistically different preschool children who are also communication-delayed. The present case study illustrates the use of an established measure of cognitive ability in preschool children, as well as a new battery of nonverbal cognitive tests being standardized for use with preschoolers and older populations. The study is based on an actual case of a preschool child to whom a complete battery of psychoeducational tests was administered. The use of nonverbal tests of intelligence has been considered in the literature a promising practice for the assessment of intelligence of bilingual children. From the educational standpoint, however, nonverbal tests are often not good predictors of academic achievement. Nevertheless, research suggests that these tests tend to yield high mean scores for most linguistic minorities. Clinically, this fact has great significance, since nonverbal measures may produce more accurate assessments of minority, communication-impaired children than what traditional intelligence tests with heavy verbal loading may provide.

Identifying Information

Name of the Child: Paul
Chronological Age: 3 years, 10 months
Evaluation Dates: 5/1/96, 5/15/96 and 6/20/96
Languages: English and Spanish

Clinicians: Eduardo C. Armenteros and Multidisciplinary Team at the
Florida Diagnostic and Learning Resources System/South (FDLRS/S), Dade County Public Schools, Miami, Florida

Reason for Referral

Paul is a 3-year, 10-month old male who was referred by his parents for a complete psychoeducational evaluation because of speech and language difficulties, and for assistance with educational planning.

Background Information

Paul is a preschool child of Hispanic descent who lives with his parents and four older siblings. Paul's parents both have two years of college education. English and Spanish are the languages of the household.

Paul's mother reported an uneventful pregnancy. The child was born three weeks prematurely via vaginal delivery, but without complications. Developmental milestones were achieved within normal limits, except for speech and language skills which are reportedly delayed. Paul's medical history is unremarkable. He is said to be a healthy child. Paul's family medical history is contributory for reading difficulties in a brother and

a maternal uncle, respectively. Paul has never attended an educational stimulation program. He has always been cared for by his mother at home. Paul has not received any previous evaluation or treatment for his speech and language problems.

Paul was described as a well-behaved and affectionate child who likes to play with a variety of toys, games, and activities available in the household. He is able to interact adequately with adults, siblings, and other children most of the time. Paul has certain chores and responsibilities around the house. Verbal reprimands and time-outs are said to be the main discipline methods used successfully with Paul.

Tests Administered

Paul was administered the following instruments and procedures appropriate for his age and referral reason:

Sensory Screenings
Preschool Performance Scale (PPS)
Leiter International Performance Scale-Revised (Leiter-R)
Developmental Test of Visual-Motor Integration (VMI)
Learning Accomplishment Profile-Diagnostic (LAP-D)
Scales of Independent Behavior (SIB)
Conners' Rating Scales (CRS), Parent Scale

Behavioral Observations

Paul was appropriately dressed and well groomed on the days of the evaluation. He was accompanied by his mother from whom he separated with ease. Paul performed as right handed and did not demonstrate any significant sensory or motor difficulties for purposes of the tests administered.

Communication with Paul and administration of test items were accomplished bilingually, in English and Spanish, since the child has been exposed to both languages. Nonverbal instructions were given as needed. Paul was able to follow simple two-step oral directions, but repetition was usually required. He engaged in spontaneous conversation with the examiner using jargon and two- to five-word utterances, predominantly in English with some words in Spanish. Speech intelligibility was poor to fair. Paul had difficulty in responding to open-ended questions.

Rapport with Paul was easy to establish as he readily engaged in interaction with the examiner and with the toys and materials provided. He demonstrated appropriate range and intensity of emotions and maintained a friendly and playful attitude during the assessment. Paul was cooperative and put forth good effort throughout the evaluation procedure. His activity level was moderate to excessive, his attention span was short for his age, and his impulse control was fair to poor. He became easily distractible and required frequent structuring and monitoring in order to focus in and stay on the task at hand. Paul's workstyle was characterized by a combination of trial-and-error and insight in his approach to problem-solving. His use of search and scanning skills was below average. Paul was capable of self-correction and seemed aware of his capabilities and limitations. Paul generally responded well to a combination of positive reinforcement and limit setting.

Test Results and Interpretation

Paul passed the preliminary sensory screenings performed on his first appointment at FDLRS/S. Both his vision and hearing were found to be adequate for testing purposes.

Intellectual Functioning

The Preschool Performance Scale (PPS) is a test of nonverbal (visual-motor-spatial) cognitive abilities standardized on hearing-impaired and normal-hearing children aged 2-0 to 5-5 years. Both instructions and responses are completely nonverbal, thereby making this instrument suitable for testing children with language and/or hearing difficulties. On the PPS, Paul obtained an IQ score of 104 (mean=100, standard deviation=15). This places him as functioning 0.3 standard deviation above the mean and within the Average range, in terms of nonverbal cognitive skills.

Paul obtained the following PPS subtest scores:

Subtest	Scaled Score*
Manual Planning	8
Manual Dexterity	6
Form Perception	14
Perceptual Motor Skills	7
Preschool Skills	13
Part-Whole Relations	16

*mean=10, standard deviation=3

Analysis of Paul's PPS subtest scores revealed significant strengths in form matching skills, visual perception of form, color matching skills, nonverbal counting skills (by matching discrete objects), and ability to synthesize concrete parts into meaningful wholes. On the other hand, significant weaknesses were noted in visual-motor coordination and planning, fine motor speed, visual attention span, and visual sequencing ability. Inter-test scatter fluctuated from scaled scores of 6 to 16, indicating variability from the Borderline to the Very Superior ranges of nonverbal intellectual functioning.

In order to further assess Paul's level of intellectual functioning, the Standardization Edition of the Leiter International Performance Scale-Revised (Leiter-R) was administered. The Leiter-R is an individually administered assessment instrument designed to measure intelligence, including reasoning, visualization, memory, and attention domains in individuals ages 2 to 21. All items of the Leiter-R are nonverbal and are specifically designed to be modified for administration to children with communication disorders, as well as to those children whose first language is not English. For these reasons, the Leiter-R was considered to be an appropriate tool to obtain another measure of Paul's cognitive abilities. It should be noted, however, that since the Leiter-R is currently in the standardization process, the results obtained should be considered tentative.

Administration of the Leiter-R Preschool Core Battery yielded the following results:

Subtest	Scaled Score*
Matching (M)	12
Repeated Patterns (RP)	9
Sequential Order (SO)	12
Classification (C)	14
Picture Context (PC)	16
Figure Ground (FG)	16
Form Completion (FC)	13

Selected subtests from the Preschool Supplemental Battery were administered in order to obtain a measure of memory and attention skills, respectively. The following results were obtained:

Subtest	Scaled Score*
Sustained Attention (SA)	11
Forward Memory (FM)	9

*mean=10, standard deviation=3

An estimated "brief IQ" screening score of 116 (mean=100, standard deviation=15) was obtained from the RP, SO, FG, and FC subtest scores.

The overall results of the Leiter-R were indicative of above-average functioning in most of the nonverbal ability areas assessed, especially in visualization skills, where his highest performance was noted. Reasoning skills were also found to be above-average. On the other hand, attention and memory skills were generally average.

Analysis of Paul's Leiter-R subtest scores revealed significant strengths in the ability to determine from contextual clues the missing element in a picture, and the ability to visually perceive an object or shape embedded in a complex figure. On the other hand, a weakness, relative to his overall performance, was noted in the ability to perceive a pattern, and to hold it in memory long enough to reproduce it several times.

The results of the Leiter-R are generally consistent with the findings of the PPS in that both instruments indicate that Paul's overall level of nonverbal cognitive functioning is in the Average to Above Average ranges, and that his performance is higher in visualization and reasoning abilities and lower in attention and memory skills. By contrast, the discrepancy between Paul's lower (average) PPS IQ score and his higher (above-average) Leiter-R IQ score is thought to stem, at least in part, from his difficulties in certain aspects of fine motor performance. Since motor aspects are minimized in the Leiter-R, the results of this test appear to be a better indicator of Paul's cognitive potential.

Developmental Functioning

On the Developmental Test of Visual-Motor Integration (VMI), Paul attained an Age Equivalent score of 3 years, 6 months. His performance on the VMI is, therefore, generally commensurate with chronological age expectancy level and is indicative of average functioning in visual-perceptual-motor integration skills.

The Learning Accomplishment Profile-Diagnostic (LAP-D) is a standardized test instrument used for the purpose of recognizing and identifying mastered and emerging developmental achievement skills in preschool and kindergarten children. Paul obtained the following scores on the eight subscales administered:

Subscale	Age Equivalent	Percentile Rank	Standard Score
Fine Motor: Manipulation	43-44	45	98
Fine Motor: Writing	43-44	46	99
Cognitive: Matching	39-40	35	94
Cognitive: Counting	44-45	50	100
Language: Naming	33-35	3	72
Langauge: Comprehension	36	11	82
Gross Motor: Body Movement	49-50	85	116
Gross Motor: Object Movement	43-45	54	102

*Mean=100, Standard Deviation=15

Analysis of Paul's LAP-D profile revealed a significant strength in locomotor skills. On the other hand, significant deficits were evident in receptive language/comprehension skills and expressive language/naming skills, respectively. The standard score that Paul obtained on the subscale that measures receptive language skills was more than one standard deviation below the chronological age mean, while the standard score obtained on the subscale that assesses expressive language skills was almost two standard deviations below expectancy level. Paul's developmental achievement in the following areas was found to be generally age-appropriate and within the Average range: manual dexterity/visuospatial constructional skills, visual-motor integration/pre-writing skills, abstract nonverbal reasoning/perceptual-matching skills, counting skills/quantitative concepts, and object control skills.

The language deficits found in the LAP-D were generally supported by the results of the bilingual speech/language evaluation conducted by the speech-language pathologist on the child's first appointment at FDLRS/S. The results of this evaluation revealed significant receptive and expressive speech and language deficits in both English and Spanish, including the areas of vocabulary and articulation. Mixed language dominance was reported.

Behavioral Functioning

On the Scales of Independent Behavior (SIB), Paul obtained a Broad Independence Scale standard score of 87 (mean=100, standard deviation=15) and an Age Equivalent score of 2 years, 9 months, which is suggestive of below-average performance in overall functional independence. A significant weakness was

found in communication skills, while average functioning was revealed in motor development. These results are consistent with the findings of the LAP-D.

The Parent Scale of the Conners' Rating Scales (CRS) was administered in order to assess Paul's overall behavioral functioning. Based on the ratings of Paul's mother on this scale, there were no problem areas reported that were significantly higher than other children of similar age and sex. However, analysis of the individual items endorsed suggests that the following specific concerns were raised: speech is difficult to understand, tends to whine at times, becomes distracted when spoken to, and cries when does not get his way.

Summary and Recommendations

Please be advised that any assessment of preschool children is limited in predictive validity due to rapid developmental changes in these young children. Furthermore, the diversity of cultural, linguistic, and at-risk factors complicate the assessment procedure to a greater extent. Consequently, assessment results should be interpreted in terms of relative strengths and weaknesses, rather than absolute levels of functioning. In Paul's case, his bilingual and bicultural background, as well as his speech and language difficulties, should be considered in the interpretation of current findings. For these reasons, special weight should be given to the nonverbal estimates of general ability.

Paul is a three-year-old Hispanic male who is presenting significant speech and language problems in both English and Spanish. Intellectually, he is currently functioning within the Average range, in terms of nonverbal abilities, as measured by the PPS. Some variability was noted in the PPS profile. The results of the Leiter-R were indicative of average to above-average nonverbal cognitive functioning in most of the ability areas assessed. However, since the Leiter-R is still in the process of standardization, the results obtained should be considered tentative. Developmentally, significant deficits were revealed in both receptive and expressive speech and language skills. These deficits were documented by the results of the LAP-D and the SIB, as well as by the findings of the bilingual speech/language evaluation. Paul's developmental functioning in the areas of fine motor, gross motor, and cognitive skills, as measured by the LAP-D, and in the area of visual-perceptual-motor skills, as measured by the VMI, was found to be age-appropriate. Behaviorally, below-average functional independence was noted on the SIB, while concerns with inattention and speech/language problems were raised on the CRS.

Paul's profile can be subsumed under the following DSM-IV diagnostic categories:

315.31 Mixed Receptive-Expressive Language Disorder
315.39 Phonological Disorder

Based on the results of this evaluation, the following recommendations are made:

1. Paul would benefit from a preschool program that provides early developmental stimulation in an individualized and multi-modal format. He should have developmentally age-appropriate experiences in all areas, especially in the areas of speech and language. Educational programming should take into consideration Paul's average to above-average level of nonverbal cognitive functioning.

2. Paul would benefit from continued exposure to a language rich environment in which the child's bilingual and bicultural background is considered. The development of speech and language skills should be encouraged at home and in the classroom by promoting supervised social interactions with peers and adults.

3. Paul would benefit from speech and language therapy.

4. Teachers are recommended to use a positive approach with Paul, maintaining realistic expectations and praising any improvement.

5. Paul would benefit from a behavior modification program, both at home and at school, in order to help him attend better and achieve more self-control.

6. Paul's progress should be closely monitored in order to ensure the ongoing appropriateness of his educational program in meeting his needs. Re-evaluation before entering kindergarten is recommended in order to monitor his developmental progress and better ascertain his future educational needs.